

SCIENCE BULLETIN: URBAN HEAT ISLAND EFFECT	
Questions	Heat Island Effect
1. What abiotic factor(s) have people changed?	<i>People designed and constructed buildings, roadways, and other artificial surfaces.</i>
2. Why do people change the abiotic factor? Why does it help us?	<i>As human populations grow, they pave more roads and build more buildings (concrete, abiotic). This development makes moving around easier and gives us more comfortable space in which to live.</i>
3. What are the consequences to the living (biotic) and non-living (abiotic) parts of the ecosystem of that abiotic change? Use the terms abiotic and biotic factors in your answer.	<i>These artificial structures (abiotic) trap heat at higher rates than natural surfaces, which raises the temperature (abiotic) of cities.</i>
4. How do you know these are the consequences? Describe the evidence or data that support the claim that changing this abiotic factor impacts the surroundings.	<i>Studies that compare temperatures in rural areas with urban areas. Note: Show the slides of the urban heat island effect in NYC to connect to student life and to show more data.</i>
5. Suggest how you might solve this problem.	<i>Create more “green” spaces in large cities; build green roofs (plants growing on roofs instead of blacktop), plant more trees.</i>